

THE THREE AMIGOS AND THEIR FAVORITE OMT

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Family Medicine | Neuromusculoskeletal Medicine | PGY-4

2020 Annual FOMA Convention



A TEACHING HOSPITAL



WHERE EVER THERE IS
DYSFUNCTION YOU WILL FIND US!



DISCLOSURES

There are no actual or potential personal, financial or legal conflict of interest in relation to this program or presentation...**But if you have pain or dysfunction come and see us.**

LEARNING OBJECTIVES

- Briefly review some important concepts of Osteopathic Medicine.
- Discuss some of our most effective/favorite OMT Techniques.
- Hands-on Osteopathic Workshop.



“A student of life must take in each part of the body and study its uses and relations to other parts and systems”

Andrew Taylor Still



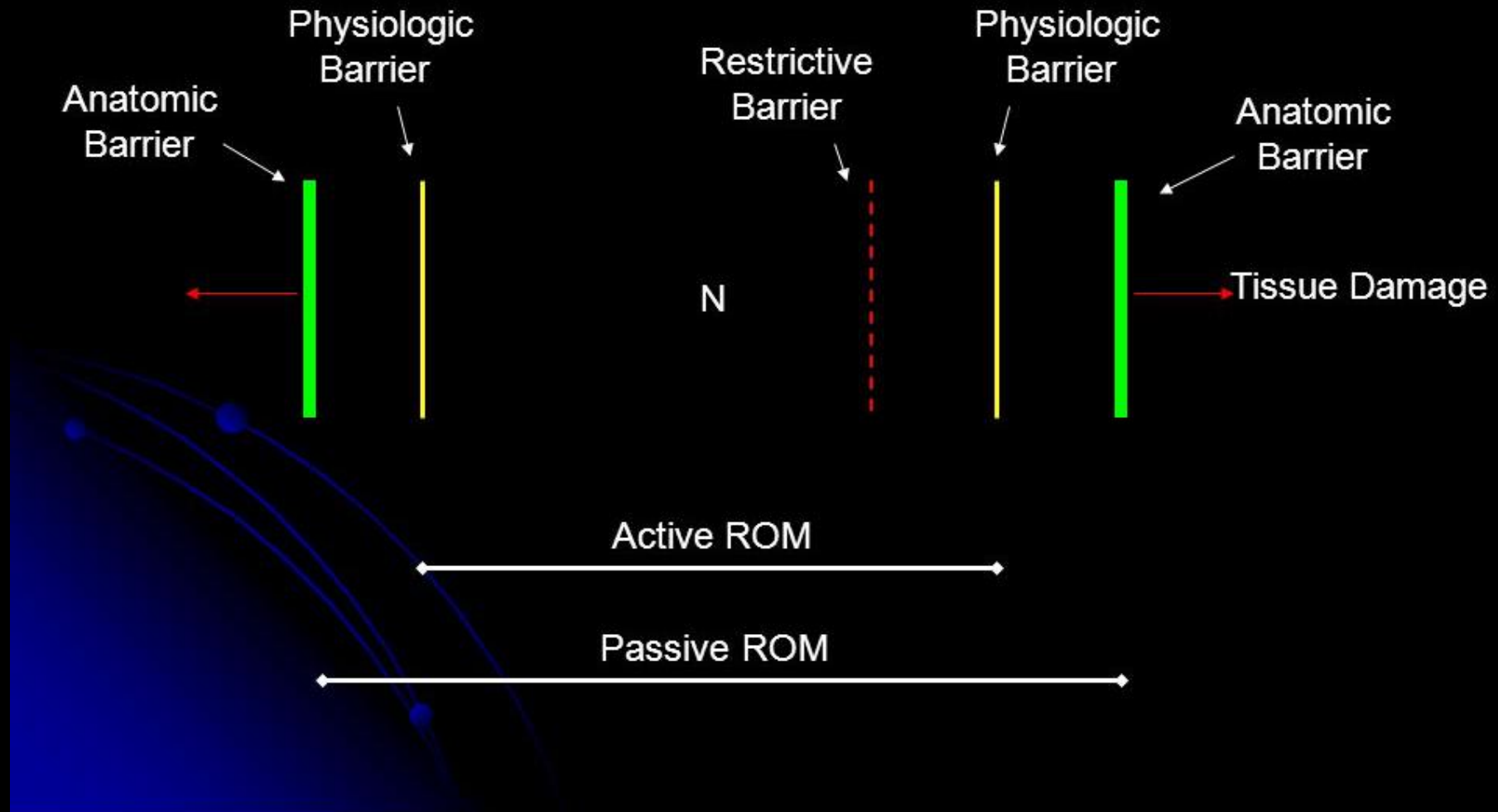
Basics of Osteopathic Medicine

DIAGNOSIS OF SOMATIC DYSFUNCTION

- T.A.R.T. is used in diagnosing somatic dysfunction. The following signs are assessed during the osteopathic examination:
 - **T** – Tenderness
 - **A** – Asymmetry (static finding)
 - **R** – Restricted range of motion (dynamic finding)
 - **T** – Tissue texture changes



BARRIERS TO MOTION



BARRIERS TO MOTION

- **Anatomic Barrier**
 - The limit of motion imposed by anatomic structure (**limit of passive motion**).
- **Physiologic Barrier**
 - The limit of **active motion**.
- **Restrictive Barrier**
 - The functional limit within the anatomic and physiologic range of motion which abnormally diminishes the normal physiologic range of motion.
- **Pathologic Barrier**
 - Permanent restriction of joint motion associated with pathologic changes of tissues (i.e. Osteophyte).

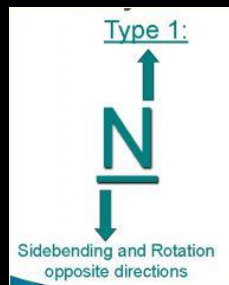
FREYETTE'S LAWS OF PHYSIOLOGIC MOTION

1st Law: Type I

Neutral
Several Segments (Group Curve)
Sidebending/rotation opposite
Rotation into the convexity
Postural

2nd Law: Type II

Non-Neutral (flexed or extended)
1-2 Segments
Sidebending/rotation to the same side
Rotation into the concavity
Traumatic



FE.

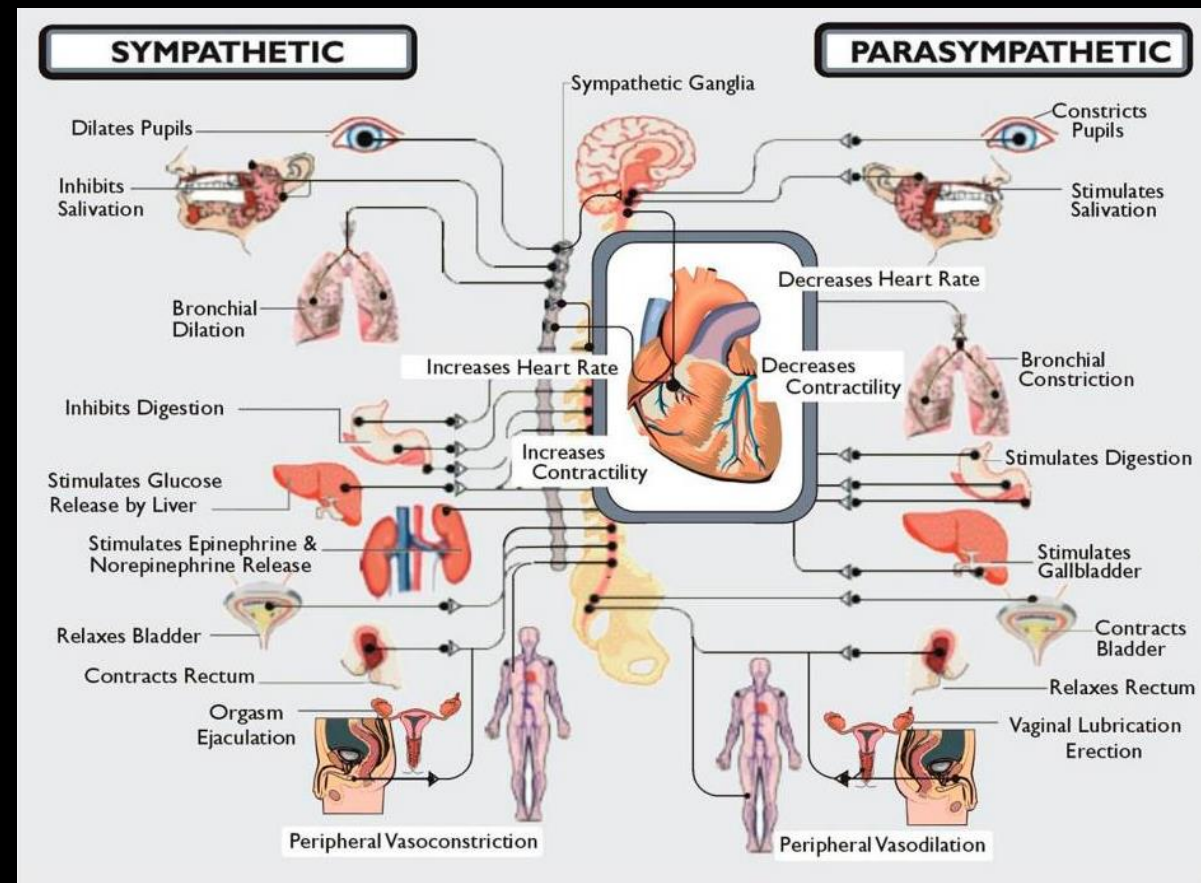
FREYETTE'S LAWS OF PHYSIOLOGIC MOTION

3rd Law

Inducing motion in one plane reduces or modifies the motion in the other two planes

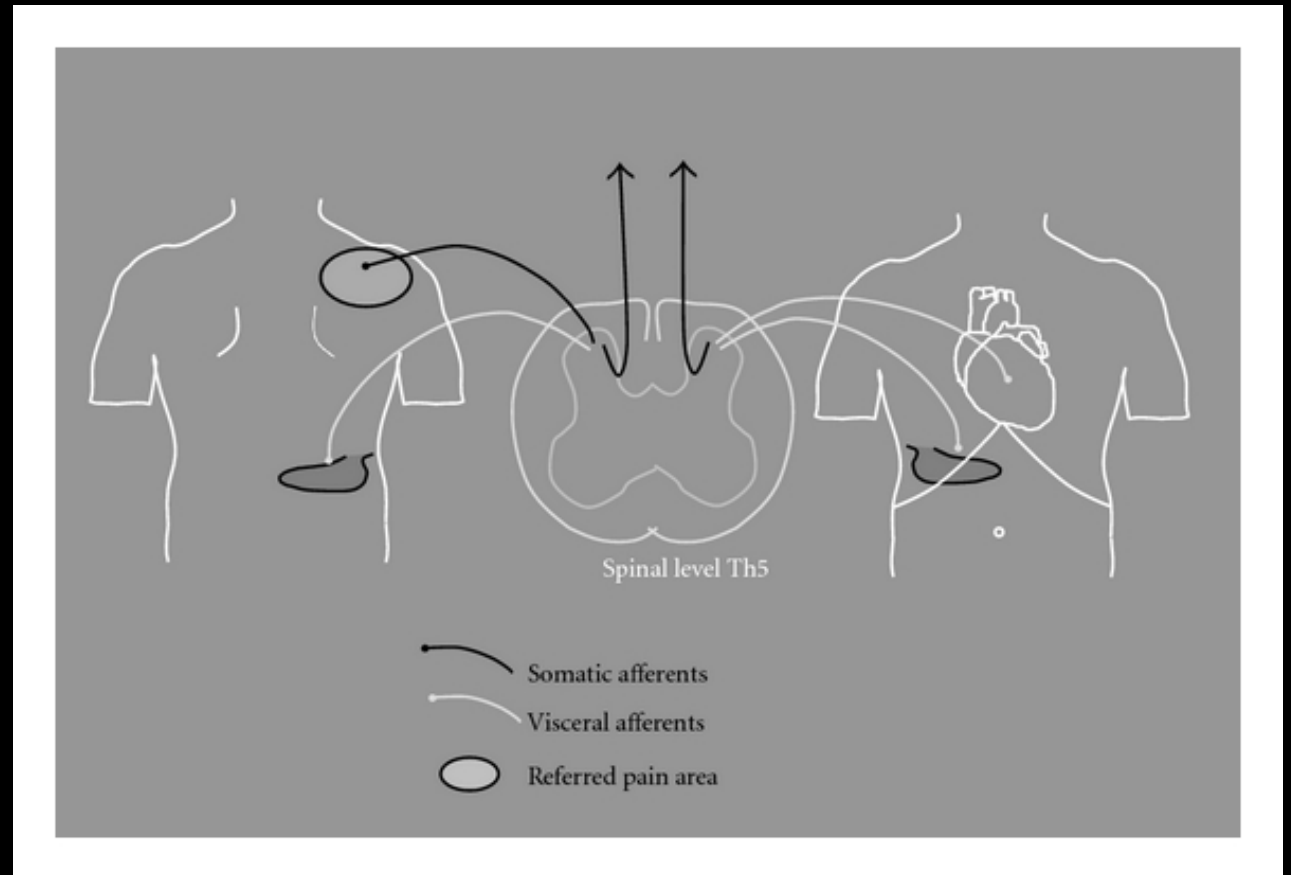
AUTONOMIC NERVOUS SYSTEM

- **Sympathetic:** T1-L2
- **Parasympathetic:** CN III, VII, IX, X, S2-4



VISCERO-SOMATIC REFLEXES

HEENT	T1 – T4
Heart	T1 – T5
Lungs	T2– T5/T6
Esophagus	T2 – T4
Stomach	T5 – T9
Spleen/Pancreas	T7 – T9 (left)
Liver/Gallbladder	T6/T7 – T9 (right)
Adrenals	T8 – T10
Adrenals	T9 – T10
Small Intestine	T10 – T11
Ovaries/Testes	T10 – L1
Kidney	T12 – L1/L2
Uterus	T10 – T11
Right Colon	T12 – L2
Left Colon	T11/12 – L2
Bladder/Uterus	T11/12 – L2
Prostate	L1 – L2
Rectum/Sigmoid	T2 – T7
Upper Extremity	T11 – L2
Lower Extremity	



TECHNIQUES

Direct	Indirect
<ul style="list-style-type: none">• Myofascial Release• Cranial (children)• Still• HVLA• Muscle Energy• Soft Tissue• LVMA/Articulatory• Springing	<ul style="list-style-type: none">• Myofascial Release• Cranial (adult)• Still• Counterstrain• FPR• LAS/BLT



HIGH YIELD TECHNIQUES FROM HEAD TO TOE

- Cranial/Cervical - AO Decompression
- Cervical Spine – “Licata Roll”
- Cervical spine – Still Technique
- Upper Extremity – Spencer's Technique
- Thoracic/Lumbar – Muscle Energy
- Pelvis/Sacrum – Muscle Energy
- Sacrum – “Yeoman” Technique
- Lower Extremity – Still technique

OA DIAGNOSIS

Positioning: grasp the patient's head with both hands, with the fingertips of the index and middle fingers over the **Articular pillars**.

- The **OA** joint will be assessed in the **neutral, flexed** and **extended** positions
- Perform **translation**
 - Right translation = Left sidebending
 - Left translation = Right sidebending
- Diagnosis = position of ease (e.g., OA FRLSR)



AA DIAGNOSIS

Positioning: markedly **flex** patient's head forward to reduce rotation in lower vertebrae.

- Passively **rotate** patient's head to the barrier on each side.
- Compare **degree of restriction** in rotation to **right** and **left**.
- Diagnosis = position of ease (e.g., AA RL or RR).



DIAGNOSIS OF THE CERVICAL SPINE

□ OA motion testing

- Right translation = Left Sidebending
- Right deep sulcus = Left sidebending = Right rotation
- **SB** and **Rot.** are **Opposite (OA=Opposite Always)**

□ AA motion testing

- Flex neck to 45 Degrees and **rotate** head from left to right.

□ C2-C7 motion testing

- Right Translation = Left Sidebending
- Palpate posterior articular pillars to determine rotation.
- **SB** and **Rot** are the **Same.**

OA DECOMPRESSION

Positioning: grasp the patient's **occiput** with the fingertips of both hands.

- Lean back away from the table while applying uniform **traction** to the soft tissues of the occiput.
- Maintain traction until the soft tissues **relax**.



STILL TECHNIQUE

- Move the joint and surrounding tissues into **position of ease** (away from the restrictive barrier).
- Exaggerate the position of ease sufficiently to relax the affected tissue.
- **Introduce a force vector** of about **5lbs** through the affected tissue.
- Maintain the force vector as a lever and carry the tissue **towards and through the restrictive barrier**.
- Return to resting position and recheck



CERVICAL STILL TECHNIQUE

Diagnosis: C3 ERRSR

- Place left hand behind the patient's neck with the index fingertip on the **articular pillar of C3** while the remainder of the left hand supports the patient's head and neck.
- Place the right hand on top the the patient's head and slightly **extend** the neck with slight **right sidebending** and marked **right rotation** until the tissue relaxes
- Add a compressive **force** vector with the right hand through the top of the head
- **Rotate and Sidebend** the head/neck to the **left** and reduce extension in a single smooth motion through neutral and into left rotation **through the barrier**. Release compression
- Return to neutral and recheck



CERVICAL STILL TECHNIQUE



ARTICULATORY TECHNIQUES

- 1) Doc moves affected joint to the limit of all ranges of motion.
- 2) Once a restrictive barrier is reached, slowly and firmly, continue to apply gentle force against it.
- 3) Doc may use **respiratory cooperation** or **Muscle Energy** to increase myofascial stretch of tight tissue.
- 4) Return the articulation to its neutral position.
- 5) Repeat the process several time.
- 6) Stop when no further response is achieved.

ARTICULATORY TECHNIQUES

- Low velocity, moderate amplitude (LVMA)
 - “LICATA ROLL”
 - Spencer's Technique for the shoulder



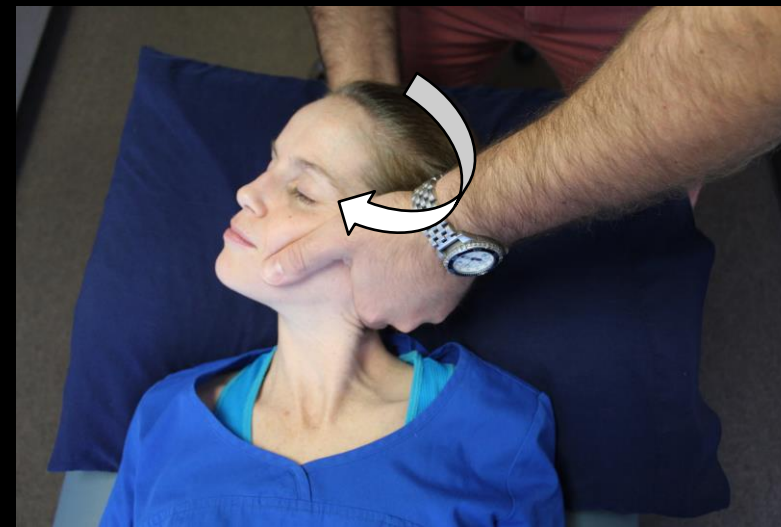
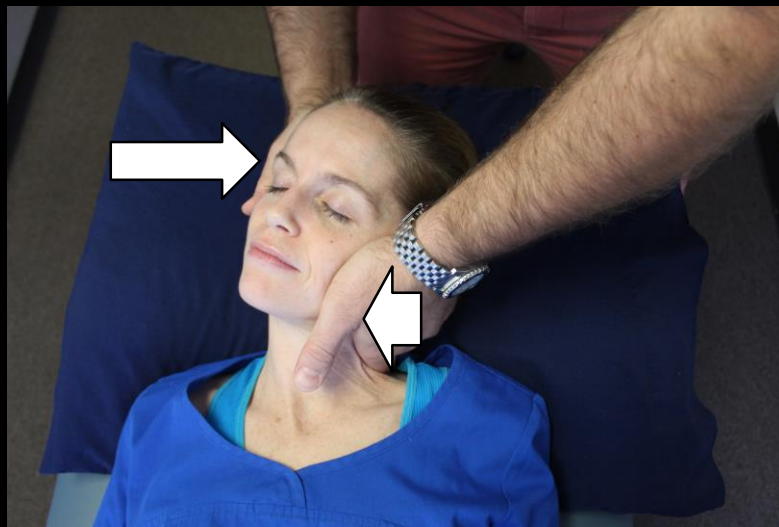
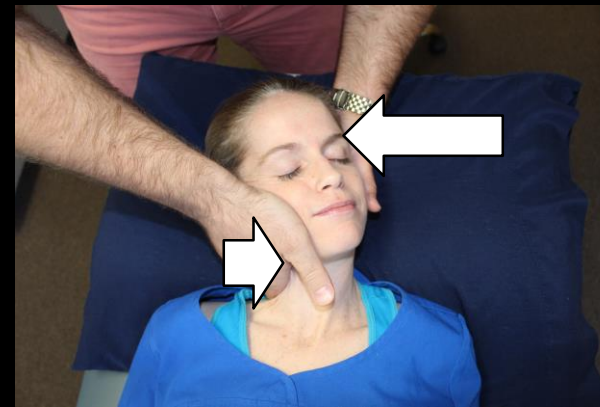
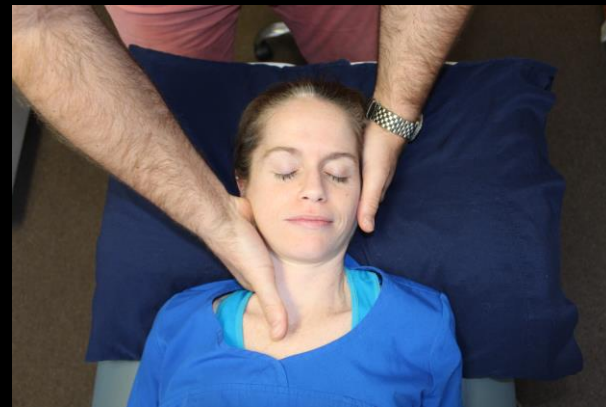
THE LICATA ROLL



HOW TO USE THE LICATA ROLL

- PLACE THE **THENAR EMINENCE** ON THE **ARTICULAR PILLAR** OF THE LEVEL BEING TREATED.
- **SIDEBEND** THE PATIENTS NECK TO ENGAGE THE VERTEBRA AT THAT LEVEL .
- **THEN ROTATE** THE CERVICAL SPINE IN THE **OPPOSITE DIRECTION**.
- REPOSITION THE THENAR EMINENCE ON THE ARTCULAR PILLAR OF THE LEVEL BELOW.
- INTRODUCE **MORE SIDBENDING** AND **ROTATION** AS YOU MOVE DOWN THE CERVICAL SPINE.
- **NO THRUST NECESSARY**, JUST A **FLUID MOTION**.

LICATA ROLL (LVLA)



MUSCLE ENERGY

- 1) Engage the restrictive barrier (**opposite the diagnosis**).
- 2) Patient contracts dysfunctional muscle for **3-5 seconds**.
- 3) Physician resists with an **isometric force**.
- 4) Patient **relaxes fully** for **1-2 seconds**.
- 5) Physician **further engages the barrier**.
- 6) Repeat the above process **3-5 times**.
- 7) During patients relaxation the physician provides a **final passive stretch**.
- 8) Reassess.

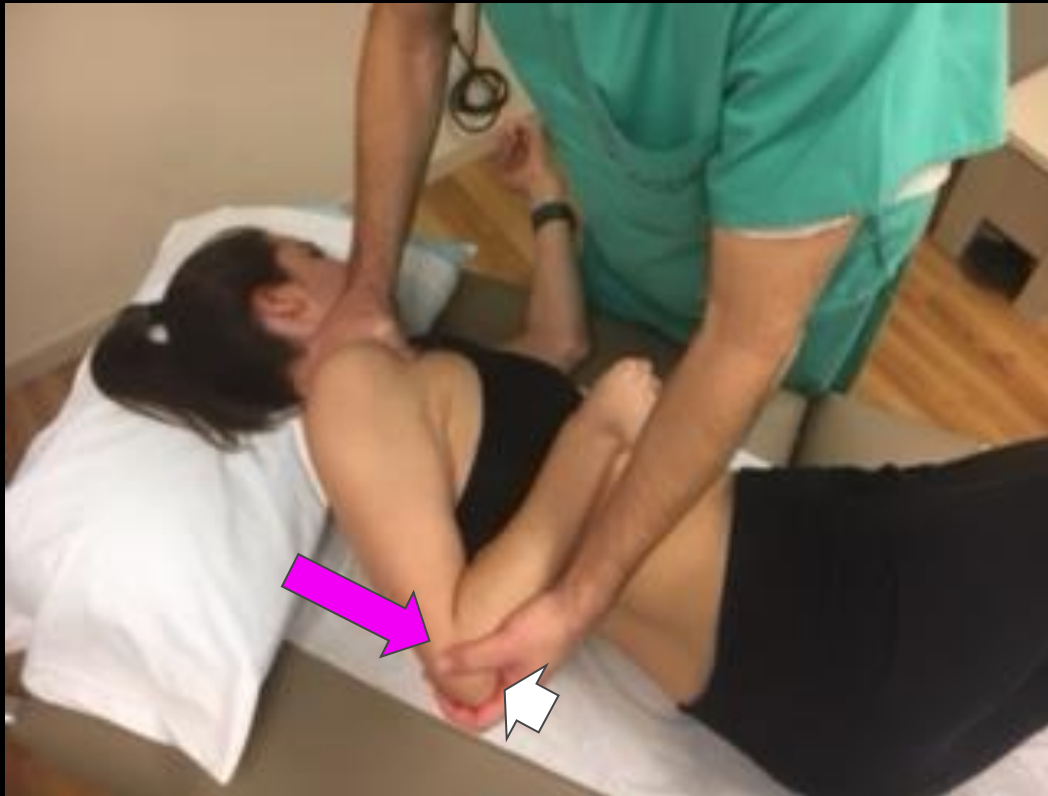
SPENCER TECHNIQUE FOR THE SHOULDER

- **Stage 1)** Shoulder **Extension** with **Elbow Flexed**.
- **Stage 2)** Shoulder **Flexion** with **Elbow Extended**.
- **Stage 3)** **Circumduction** with **Compression** and Elbow Flexed.
- **Stage 4)** **Circumduction** with **Traction** and Elbow extended.
- **Stage 5A)** **Abduction** with **Elbow Flexed**.
- **Stage 5B)** **Adduction** and **External Rotation** with Elbow Flexed.
- **Stage 6)** **Internal Rotation** with **Abduction** (Hand behind the back).
- **Stage 7)** **Distraction**, Stretching Tissues and Enhancing Fluid Drainage.

SPENCER TECHNIQUE

Shoulder **Extension** with Elbow flexed.

Shoulder **Flexion** with Elbow Extended.



SPENCER TECHNIQUE

Circumbution with Slight **Compression**
with Elbow Flexed.



Circumduction and **Traction** with
Elbow Extended.



SPENCER TECHNIQUE

Abduction with Elbow Flexed.



Adduction and **External Rotation**
With Elbow Flexed.

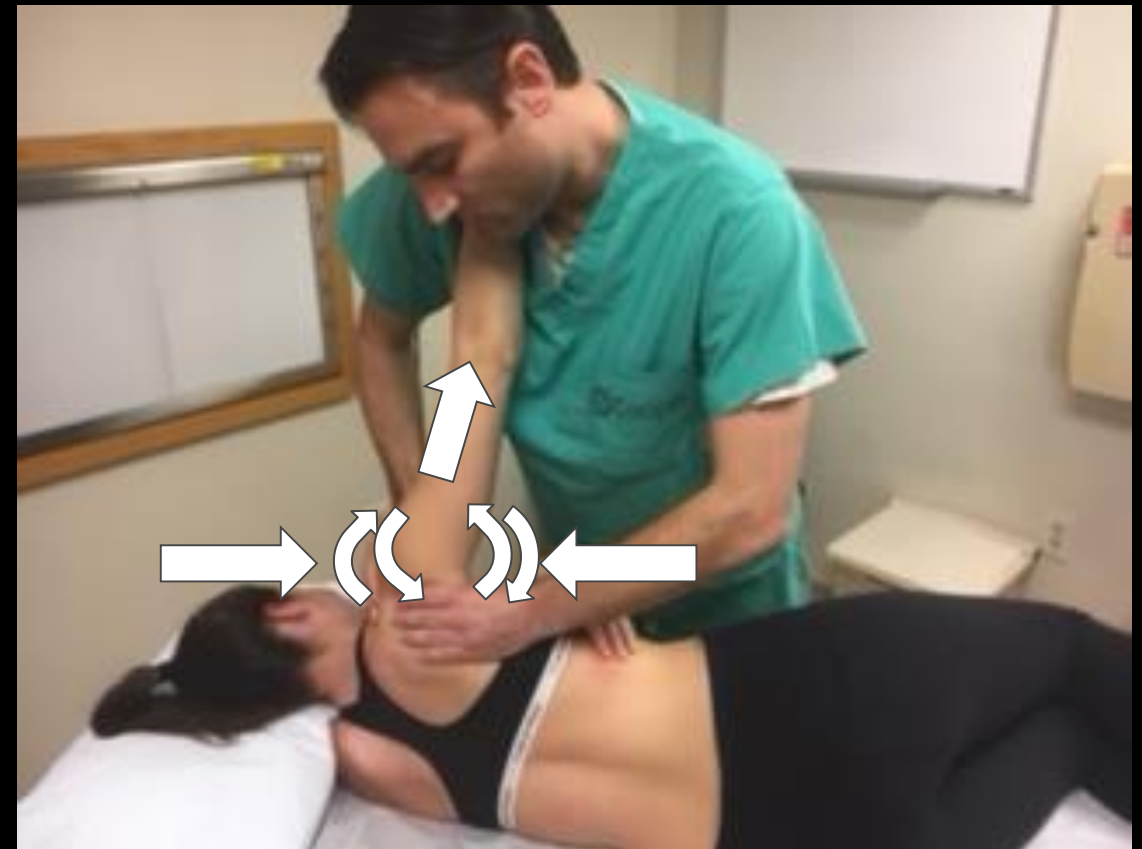


SPENCER TECHNIQUE

Internal Rotation with arm **Abducted**,
and
Enhancing Fluid Drainage



Distraction, Stretching tissues
Hand behind Back.



DIAGNOSING THE PELVIS

□ Standing Flexion Test

- **Iliosacral** motion.
- Doc eye level same as **PSIS**.
- Doc thumbs on inferior notch of PSIS while **Pat. bends forward**.
- **Somatic Dysfunction** on side of **superior PSIS** at the end of motion.



DIAGNOSING THE PELVIS

- ❑ Patient **Supine**.
- ❑ Pat. **hip-flops** to reset pelvis.
- ❑ Doc palpates **ASIS** to evaluate levelness and distance from the umbilicus.
 - ❑ **Sup/Inf** and **In/Outflare**
- ❑ Doc palpate Level of **PSIS**.
- ❑ Doc palpated **medial malleolus** for leg length discrepancies.



DIAGNOSING THE SACRUM

❑ Seated Flexion Test

- ❑ **Sacroiliac Motion.**
- ❑ Pat. **seated** with both feet flat on floor.
- ❑ Doc places **thumbs** on inferior notch of **PSIS**.
- ❑ Pat. leans forward.
- ❑ Positive test if at end of flexion PSIS are not level.
- ❑ **Somatic dysfunction** on side of **superior PSIS**.



DIAGNOSING THE SACRUM

- ❑ Palpate the **sacral sulci**
 - ❑ Which one is Deep/Shallow?
- ❑ Palpate **ILA's**
 - ❑ Which is Posterior/Inferior?

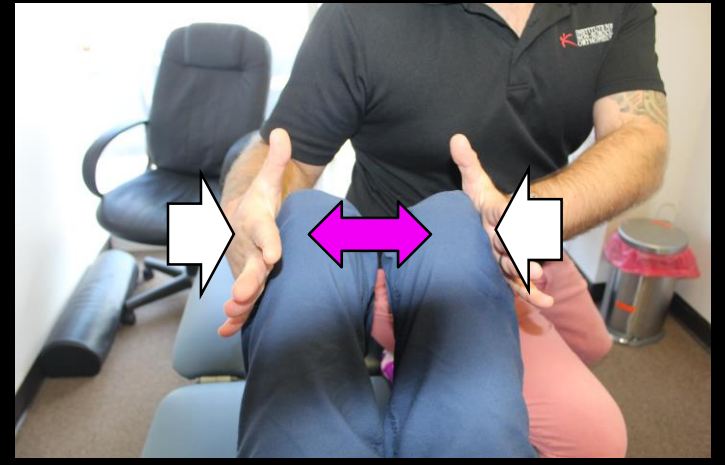
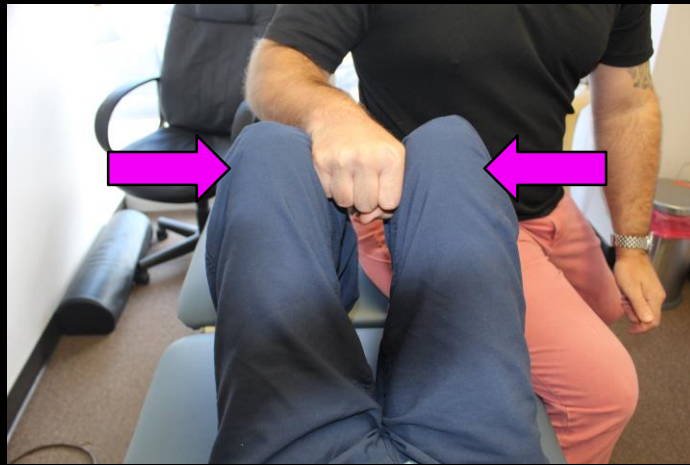
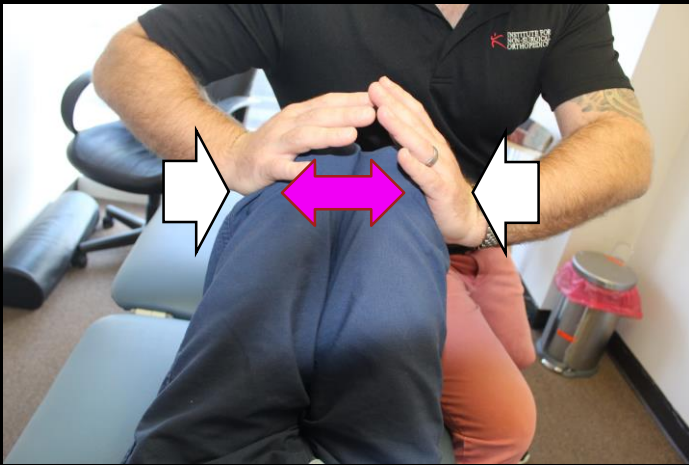


DIAGNOSIS THE SACRUM

- ❑ **Sacral base Anterior/Posterior, Spring Test**
 - ❑ Doc pushes on sacral base to assess for spring.
 - ❑ **Positive test** = steel-like resistance.
 - ❑ Indicates **backward Torsion** or **extension**.
- ❑ **Sphinx Test**
 - ❑ Doc monitors sacral sulci.
 - ❑ Pat. raises upper body onto their elbows.
 - ❑ Asymmetry of the sulci that remain or worsen indicates **backward sacral torsion**.



SHOTGUN APPROACH TO THE PELVIS & SACRUM MUSCLE ENERGY



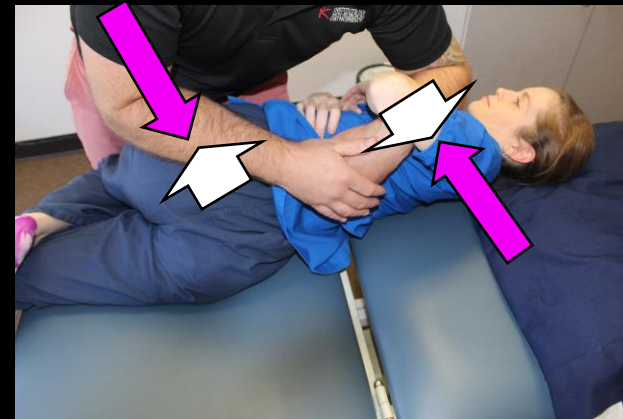
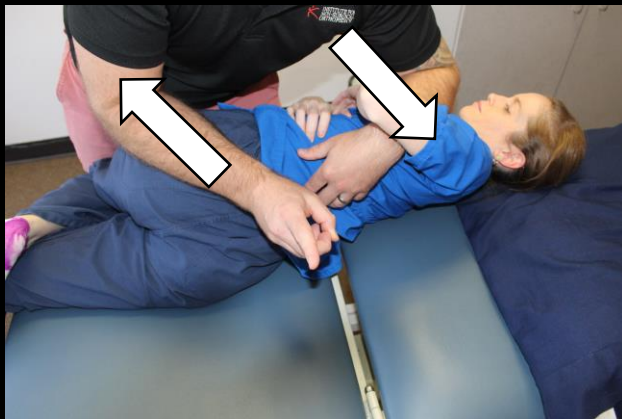
STILL TECHNIQUE FOR THE HIP

- **Flex** and **Internally Rotate** patient knee while adding a **compression force** directed **through the Femur to the Hip joint**.
- Must **Maintain** this **Compression Force** throughout the entire technique.
- **Exaggerate Flexion** and **Internal Rotation**.
- In a **circular pattern** bring the leg into **External rotation** and **Extension**.
- **Step back from table** to maintain **compression force** as you bring the leg into full extension.

HIP STILL TECHNIQUE



LUMBAR ROLL (MUSCLE ENERGY)



YEOMAN'S TECHNIQUE FOR THE SACRUM

- Patient is **Prone**.
- **Flex** patient **knee** to 90 while **extending the hip** and place your **knee under patients thigh**.
- Place your **elbow** on the margin of the patients **sacrum** medical to the SIJ.
- Apply **downward pressure** to engage the sacrum.
- Maintain this downward pressure as you **move the elbow laterally toward the patient hip** in a kneading type of movement.
- Repeat until motion is felt in the sacrum on the side being treated.

YEOMAN'S TECHNIQUE FOR THE SACRUM





The Osteopathic Workshop

(Additional practice)

REFERENCES

- Greenspan, Adam, Orthopedic Imaging: A Practical Approach, LWW 1st edition 2011
- Hoppenfeld, Stanley, MD; Physical Exam of the Spine and Extremities; 1976. pp105-132
- Netter, Frank, MD; Atlas of Human Anatomy; CIBA 1989. plates 23-30. • Greenman, Philip E. DO; Principles of Manual Medicine, 3rd edition. 2003. pp 540-544
- Seffinger, Michael, Raymond Hruby, Evidence-Based Manual Medicine: a problem oriented approach, Saunders Elsevier 1st edition 2007 • Thieme Atlas of Neck and Visceral Organs, 2006. • Ward, DO; Foundations of Osteopathic Medicine 3rd edition. 2003. pp1046
- Mitchell, Fred L. Jr., D.O., F.A.A.O., Mitchell, Kai, The Muscle Energy Manual, vol. 1, MET Press, 1998.
- Ward, Robert C., D.O., Ed., Foundations for Osteopathic Medicine, 2nd Ed., Lippincott Williams and Wilkins, 2003, pp. 684-689.
- Chila, Anthony G., D.O., Ed., Foundations for Osteopathic Medicine, 3rd Ed., Lippincott Williams & Wilkins, 2010, pp. 518-522

REFERENCES

DiGiovanna, E. L., Schiowitz, S., & Dowling, D. J. (2005). *An Osteopathic Approach to Diagnosis and Treatment* (3rd ed.). Philadelphia, Maryland, United States of America: Lippincott Williams & Wilkins.

Nicholas, A. (2011). *Atlas of Osteopathic Techniques* (2nd ed.). Philadelphia, Baltimore, United States of America: Wolters Kluwer Health.